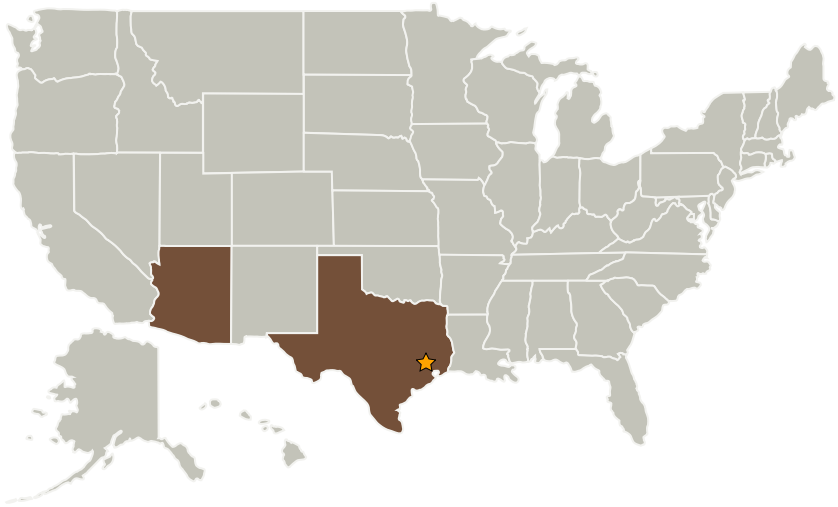
High Efficiency Refrigeration Process, Phase I

Completed Technology Project (2004 - 2004)

Project Introduction

A refrigeration cycle is proposed for development which can reduce compressor work and increase cooling effect, by eliminating a portion of the irreversabilities associated with the reverse-rankine cycle refrigeration process. This process improves efficiency without the use of complex turbines, multi-stage architecures, or mechanical expanders, all of which add system complexity and reduce reliability.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★Johnson Space Center(JSC)	Lead Organization	NASA Center	Houston, Texas
Paragon Space Development Corporation	Supporting Organization	Industry	Tucson, Arizona

Primary U.S. Work Locations	
Arizona	Texas

High Efficiency Refrigeration Process, Phase I

Table of Contents

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Johnson Space Center (JSC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

High Efficiency Refrigeration Process, Phase I

Completed Technology Project (2004 - 2004)

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Principal Investigator:

David A Bergeron

Technology Areas

Primary:

- TX07 Exploration Destination Systems
  - TX07.1 In-Situ Resource Utilization
    - TX07.1.2 Resource Acquisition, Isolation, and Preparation